PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Consumer Protection & Safety Division
Safety & Reliability Branch
Rail Transit Safety Section

RESOLUTION ST- 66
December 4, 2003

R E S O L U T I O N

RESOLUTION ST-66 GRANTING LOS ANGELES TO PASADENA METRO BLUE LINE CONSTRUCTION AUTHORITY'S REQUEST TO DEVIATE FROM THE STATION PLATFORM PERSONNEL-REFUGE AREA CLEARANCE REQUIREMENTS OF GENERAL ORDER 143-B.

SUMMARY

This resolution grants Los Angeles to Pasadena Metro Blue Construction Authority's (PBLCA) request for authority, on behalf of Los Angeles County Metropolitan Transportation Authority (MTA), to deviate from the high platform station personnel-refuge area clearance requirements of General Order 143-B (GO 143-B), Safety Rules and Regulations Governing Light Rail Transit, Section 9.07, High Level Platforms, on the Pasadena Gold Line (PGL). It allows reduced unobstructed personnel-refuge area clearance at Chinatown Station Platform for track No. 1 without adversely affecting the safety function of the personnel-refuge area under the platform.

PROJECT DESCRIPTION

The PGL is a new 13.7-mile light rail system built between Union Station in Los Angeles to Sierra Madre Villa Blvd. in Pasadena. The PBLCA constructed the system and MTA has been operating the PGL trains as part of the MTA transit system since July 26, 2003. The PGL includes 13 high-level passenger platform stations.

BACKGROUND

By letter dated September 16, 2003, PBLCA requested, on behalf of MTA, authority to deviate from station high platform personnel-refuge area clearance requirements of GO 143-B, Section 9.07, for PGL Chinatown Station Platform Track No. 1.

GO 143-B, Section 9.07 states, "A minimum personnel-refuge area measuring thirty (30) inches high and thirty (30) inches deep shall be provided under all high level platforms." The under-platform personnel-refuge area provides a safe refuge space for a person who might be trapped on the track as a train or other on-track equipment is approaching. The PGL Chinatown Station Platform Track No. 1 personnel-refuge area is constructed to have a 29.5 inches deep and 28.25 inches high unobstructed clearance up to a 6-inch standpipe and 38 inches high up to platform height at all locations except at the 6-inch round standpipe. The 6-inch pipe is located at the back of the refuge area abutting the rear wall. The pipe does not obstruct the opening to enter the refuge area.

PBLCA states that adding the additional 1.75 inches in vertical clearance and 0.5 inches in width is not believed critical for safe usage of the refuge area, and any attempt to add to the height or the width is not reasonably feasible as this concrete structure is complete and in operation. PBLCA asserts the actual and useful refuge area under the platform is greater than the 30 inches high and 30 inches deep requirement, 900 square inches. The refuge area is actually 38 inches high and 29.5 inches deep or 1,121 square inches. However, a 6-inch round pipe is located on the rear wall of the refuge area, 28.25 inches from the bottom, reducing the actual volume approximately 36 square inches[1].

The MTA Operation Safety personnel and PBLCA agree that the existing Chinatown Station high platform personnel-refuge area does not impair safety.

To support the deviation request, PBLCA also included the following observations:

1. [1] Proposed refuge size is 1085 square inches.

1. It is recognized that the area itself, measured in square inches, is not the most critical issue but a height and width dimension that are proportionally equal and therefore making the refuge area useful.

2. Because the width and the height deviations are so minor in the "unobstructed area" as compared to added area provided, due to the 28-inch height of the refuge area in the "obstructed area", there is clearly a significant increase of useful refuge space.

NOTICE

PBLCA states that a copy of the variance application letter was mailed and distributed to the potentially affected parties.

PROTEST

No protest of the variance application has been filed with the Commission.

DISCUSSION

The Safety and Reliability Branch (SRB) evaluated this variance request from the vantage point of its impact on public safety. Based on the available anthropometrical data, a 38 inches high and 29.5 inches deep refuge area, reduced by a 6-inch standpipe, should provide adequate space. In addition, there is a 3-inch difference between the platform edge and an incoming train, allowing more than 30 inches deep space in the refuge area. The available refuge area should allow the vast majority of the general public, in an emergency, to crawl on their hands and knees under the proposed passenger-platform. That would provide a place of safe refuge, on the platform side of the track, from an approaching train or other on-rail equipment. A person too large to crawl on hands and knees could roll into the personnel-refuge area in the event of an emergency.

According to anthropometrical data available to staff[2], the vertical and horizontal space available in PGL Chinatown Station high platform refuge area meets that necessary for a 97.5 percentile American male to assume a position on hands and knees within the proposed personnel refuge area. The space available[3] exceeds that necessary for the same person to assume a prone or supine position. The 97.5 percentile American male is the accepted standard, in the United States, for architectural design consideration to accommodate large persons.

The 6-inch pipe is located at the back of the refuge area abutting the rear wall. The pipe does not obstruct the opening to enter the refuge area.

Staff examined the refuge area and found smooth snag free top, bottom, and side surface to allow a person quickly enter the refuge area. The area is free of wires, nails, bolts, rough concrete or other materials protruding from the concrete surface that could easily snag a person or a person's clothing and impede their entrance into the personnel-refuge area.

COMMENTS

All parties in the proceeding have stipulated to waive the 30-day waiting period required by PU Code section 311 (g)(1) and the opportunity to file comments on the draft resolution. Accordingly, this matter will be placed on the Commission's agenda directly for prompt action.

FINDINGS

1. By letters dated September 16, 2003, PBLCA requested authority, on behalf of MTA, to deviate from the requirements of GO 143-B, Section 9.07, High Level Platforms, at specific location of the PGL.

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2. [2] Niels Diffrient, Alvin R. Tilley, Joan Bardagjy, Human Scale 4/5/6, MIT Press, 1981.

3. [3] Based on staff measurement and calculation, net area available is 1046 square inches.

2. PBLCA identified Chinatown Station Platform Track No. 1 for reduced unobstructed personnel-refuge area clearance.

3. General Order 143-B, Section 9.07, requires providing a minimum personnel-refuge area measuring 30 inches high and 30 inches deep under all high level platforms.

4. The height of the personnel-refuge area under the proposed platforms is 38 inches high and 29.5 inches deep, reduced by a 6-inch standpipe.

5. The proposed personnel-refuge area would provide vertical space and horizontal space that is adequate for the general public to crawl into or to roll into in the event of an emergency.

6. The refuge area has smooth surface at the entire top, side, and bottom of the refuge area necessary to a person's ability to quickly and safely enter into that emergency space.

7. MTA, the PGL operator, has confirmed that it is agreeable to the reduced unobstructed personnel-refuge area clearance.

8. PBLCA, MTA, and staff are in agreement that the proposed reduced unobstructed personnel-refuge area clearance will not significantly impact public safety.

THEREFORE, IT IS ORDERED THAT:

1. PBLCA's request, on behalf of MTA, for authority to deviate from the requirements of GO 143-B, Section 9.07, High Level Platforms, in the construction and operation of the personnel-refuge area for the Chinatown Station platform track No. 1 is granted. .

2. This resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted by the Commission at its regularly scheduled meeting on December 4, 2003. The following Commissioners voted favorably thereon:

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William Ahern
Executive Director